(FILE 'HOME' ENTERED AT 17:33:19 ON 22 APR 2002)

FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL, JAPIO' ENTERED AT 17:33:29 ON 22 APR 2002

L1 64559 S CHLAMYDIA
L2 95 S (PUTATIVE OUTER MEMBRANE PROTEIN)
L3 29 S L1 AND L2
L4 3 S L3 AND VACCINE

FILE 'STNGUIDE' ENTERED AT 17:36:04 ON 22 APR 2002

FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL' ENTERED AT 17:37:42 ON 22 APR 2002

L5 8 DUP REM L3 (21 DUPLICATES REMOVED)
L6 8 DUP REM L3 (21 DUPLICATES REMOVED)

6 ANSWER 1 OF 8 USPATFULL
AN 2002:66642 USPATFULL
TI **Chlamydia** antigens and corresponding DNA fragments and uses thereof
IN Murdin, Andrew D., Richmond Hill, CANADA
Oomen, Raymond P., Aurora, CANADA
Wang, Joe, Toronto, CANADA
PA Aventis Pasteur Limited (non-U.S. corporation)
PI US 2002037293 A1 20020328
AI US 2001-886468 A1 20010622 (9)
PRAI US 1998-113280P 19981223 (60)
US 1998-113281P 19981223 (60)
US 1998-113282P 19981223 (60)
US 1998-113283P 19981223 (60)
US 1998-113284P 19981223 (60)
US 1998-113285P 19981223 (60)
US 1998-113385P 19981223 (60)
US 1998-114050P 19981228 (60)
US 1998-114056P 19981228 (60)
US 1998-114057P 19981228 (60)
US 1998-114058P 19981228 (60)
US 1998-114059P 19981228 (60)
US 1998-114061P 19981228 (60)
DT Utility
FS APPLICATION
LREP BERNHARD D. SAXE, FOLEY & LARDNER, Suite 500, 3000 K Street N.W., Washington, DC, 20007-5109
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 96 Drawing Page(s)
LN.CNT 1663
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides purified and isolated polynucleotide molecules that encode **Chlamydia** polypeptides which can be used in methods to prevent, treat, and diagnose **Chlamydia** infection. In one form of the invention, the polynucleotide molecules are selected from DNA that encode polypeptides CPN100686 RY-54 (SEQ ID Nos: 1 and 14), CPN100696 RY-55 (SEQ ID Nos: 2 and 15), CPN100709 RY-57 (SEQ ID Nos: 3 and 16), CPN100710 RY-58 (SEQ ID Nos: 4 and 17), CPN100711 RY-59 (SEQ ID Nos: 5 and 18), CPN100877 RY-61 (SEQ ID Nos: 6 and 19), CPN100325 RY-62 (SEQ ID Nos: 7 and 20), CPN100368 RY-63 (SEQ ID Nos: 8 and 21), CPN100624 RY-64 (SEQ ID Nos: 9 and 22), CPN100633 RY-65 (SEQ ID Nos: 10 and 23), CPN100985 RY-66 (SEQ ID Nos: 11 and 24), CPN100987 RY-67 (SEQ ID Nos: 12 and 25), CPN100988 RY-68 (SEQ ID Nos: 13 and 26).

L6 ANSWER 2 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2001:208621 BIOSIS
DN PREV200100208621
TI Identification of polymorphic outer membrane proteins of **Chlamydia** psittaci 6BC.
AU Tanzer, Regina J.; Longbottom, David; Hatch, Thomas P. (1)
CS (1) Department of Molecular Sciences, University of Tennessee Center for Health Sciences, 858 Madison Ave., Memphis, TN, 38163: thatch@utmem.edu USA
SO Infection and Immunity, (April, 2001) Vol. 69, No. 4, pp. 2428-2434. print.
ISSN: 0019-9567.
DT Article
LA English
SL English
AB The genomes of **Chlamydia** spp. encode a family of **putative outer membrane proteins**, referred to as polymorphic outer membrane proteins (POMPs), which may play

a role in the avoidance of host immune defenses. We analyzed avian strain 6BC of **Chlamydia** psittaci by polyacrylamide gel electrophoresis for the expression of POMPs. At least six putative POMPs were identified on the basis of their size (90 to 110 kDa) and labeling with an outer membrane-specific probe, 3-(trifluoromethyl)-3-(m-(125I)iodophenyl)diazirine. Three of the putative POMPs reacted with antiserum raised against a recombinant ovine C. psittaci strain POMP, and two possessed surface-exposed, trypsin-sensitive sites. The POMPs were dependent on disulfide bonds for their maintenance in sodium lauryl sarcosine- and sodium dodecyl sulfate-insoluble complexes but did not appear to be interpeptide disulfide bond cross-linked. The putative POMPs were found to be synthesized during the late phase of the chlamydial developmental cycle, cotemporally with the cysteine-rich doublet periplasmic proteins.

L6 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 2000:384432 CAPLUS
DN 133:29606
TI A **Chlamydia** pneumoniae 98kDa outer membrane protein and gene sequences, and uses for immunization and diagnosis
IN Murdin, Andrew D.; Oomen, Raymond P.; Wang, Joe; Dunn, Pamela
PA Connaught Laboratories Limited, Can.
SO PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000032784	A1	20000608	WO 1999-CA1148	19991201
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000037909	A5	20000619	AU 2000-37909	19991201
EP 1135501	A1	20010926	EP 1999-957786	19991201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI US 1998-110439P	P	19981201		
US 1999-132272P	P	19990503		
WO 1999-CA1148	W	19991201		

AB The invention provides sequences of a **Chlamydia** pneumoniae 98kDa **putative outer membrane protein** (OMP) CPN100640 and corresponding DNA which can be used in methods to prevent, treat, and diagnose **Chlamydia** infections in mammals, including humans. In particular, a vaccine vector encoding OMP or an OMP/signal peptide fusion protein is provided as is its use in immunization against **Chlamydia**. Probes/primers and antibodies for diagnostic use are also provided. BALB/C mice vaccinated with an expression vector for OMP antigen showed increased resistance to challenge with C. pneumoniae.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 2000:314718 CAPLUS
DN 132:333380
TI Sequences of a **Chlamydia** pneumoniae 98kDa **putative outer membrane protein**, and uses thereof in

diagnostic and therapeutic applications
IN Murdin, Andrew David; Oomen, Raymond Peter; Dunn, Pamela Lesley
PA Connaught Laboratories Limited, Can.
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000026237	A2	20000511	WO 1999-GB3579	19991029
WO 2000026237	A3	20000921		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1124849	A2	20010822	EP 1999-954095	19991029

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI US 1998-106070P	P	19981029
US 1999-122066P	P	19990301
US 1999-428122	A	19991027
WO 1999-GB3579	W	19991029

AB The invention provides sequences of a **Chlamydia** pneumoniae 98kDa **putative outer membrane protein** (OMP) which can be used in methods to prevent, treat, and diagnose **Chlamydia** infections. In particular, a vaccine vector encoding OMP or an OMP/signal peptide fusion protein is provided as is its use in immunization against **Chlamydia**. Probes/primers for diagnostic use are also provided.

L6 ANSWER 5 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2000:241785 BIOSIS
DN PREV200000241785
TI Membrane proteins PmpG and PmpH are major constituents of **Chlamydia** trachomatis L2 outer membrane complex.
AU Mygind, Per Holse (1); Christiansen, Gunna; Roepstorff, Peter; Birkelund, Svend
CS (1) Department of Medical Microbiology and Immunology, University of Aarhus, Bartholin Building, DK-8000, Aarhus C Denmark
SO FEMS Microbiology Letters, (May 15, 2000) Vol. 186, No. 2, pp. 163-169. ISSN: 0378-1097.
DT Article
LA English
SL English
AB The outer membrane complex of **Chlamydia** is involved in the initial adherence and ingestion of **Chlamydia** by the host cell. In order to identify novel proteins in the outer membrane of **Chlamydia** trachomatis L2, proteins were separated by sodium dodecyl sulfate polyacrylamide gel electrophoresis. By silver staining of the protein profile, a major protein doublet of 100-110 kDa was detected. In-gel tryptic digestion and matrix-assisted laser desorption/ionization mass spectrometry identified these proteins as the **putative outer membrane proteins** PmpG and PmpH.

L6 ANSWER 6 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 1999:246856 BIOSIS
DN PREV199900246856
TI Identification of two novel genes encoding 97- to 99- kilodalton outer

membrane proteins of **Chlamydia** pneumoniae.
AU Knudsen, Katrine (1); Madsen, Anna Sofie; Mygind, Per; Christiansen, Gunna; Birkelund, Svend
CS (1) Department of Medical Microbiology and Immunology, University of Aarhus, Bartholin Building, DK-8000, Aarhus C Denmark
SO Infection and Immunity, (Jan., 1999) Vol. 67, No. 1, pp. 375-383. ISSN: 0019-9567.
DT Article
LA English
SL English
AB Two genes encoding 97- to 99-kDa **Chlamydia** pneumoniae VR1310 outer membrane proteins (Omp4 and Omp5) with mutual similarity were cloned and sequenced. The proteins were shown to be constituents of the C. pneumoniae outer membrane complex, and the deduced amino acid sequences were similar to those of **putative outer membrane proteins** encoded by the **Chlamydia** psittaci and **Chlamydia** trachomatis gene families. By use of a monospecific polyclonal antibody against purified recombinant Omp4, it was shown that without heating, the protein migrated at 65 to 75 kDa in sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Immunoelectron microscopy showed that epitopes of Omp4 were exposed on the surface of C. pneumoniae elementary bodies, reticulate bodies, and outer membrane complex. Proteins encoded by the C. pneumoniae gene family seem to be dominant antigens in experimentally infected mice.

L6 ANSWER 7 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1999:324744 BIOSIS
DN PREV199900324744
TI POMPs of **Chlamydia** psittaci and **Chlamydia** trachomatis are late-stage specific.
AU Tanzer, R. J. (1); Longbottom, D.; Hatch, T. P. (1)
CS (1) University of Tennessee, Memphis, Memphis, TN USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1999) Vol. 99, pp. 226.
Meeting Info.: 99th General Meeting of the American Society for Microbiology Chicago, Illinois, USA May 30-June 3, 1999 American Society for Microbiology
. ISSN: 1060-2011.
DT Conference
LA English

L6 ANSWER 8 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 1998:212226 BIOSIS
DN PREV199800212226
TI Molecular cloning and characterization of the genes coding for the highly immunogenic cluster of 90-kilodalton envelope proteins from the **Chlamydia** psittaci subtype that causes abortion in sheep.
AU Longbottom, David (1); Russell, Masry; Dunbar, Susanna M.; Jones, Gareth E.; Herring, Alan J.
CS (1) Moredun Res. Inst., Int. Res. Cent. Pentlands Sci. Park, Bush Loan, Penicuik, Midlothian EH26 0P2 UK
SO Infection and Immunity, (April, 1998) Vol. 66, No. 4, pp. 1317-1324. ISSN: 0019-9567.
DT Article
LA English
AB Proteins present in the outer membrane of chlamydiae that are involved in mucosal epithelial cell infection must clearly be identified and characterized if we are to understand and modify the pathogenic mechanisms utilized by these organisms. We have identified and isolated a family of four genes encoding **putative outer membrane proteins** (POMPs), a group of proteins of approximately 90 kDa present in the outer membrane of the subtype of **Chlamydia** psittaci that causes ovine enzootic abortion (strain S26/3). These proteins, although minor components, are major immunogens, as shown by the

immunoblotting of chlamydial outer membrane complexes with postabortion sheep sera, and are therefore potential diagnostic and/or protective antigen candidates. Immunoblotting of the expressed amino- and carboxy-terminal halves of one of the POMPs with postabortion sheep sera showed that the major humoral immune response appeared to be directed solely against the amino-terminal half. This result, in combination with the positive immunofluorescence staining of S26/3-infected cells using POMP-specific (specific to the amino-terminal half of the proteins) monoclonal antibodies, suggests the probable surface localization of the POMPs and, more specifically, the surface exposure of the amino-terminal half of these proteins. The four pomp genes are highly homologous, sharing 82 to 100% similarity with each other (two of the genes are identical). Genes with strong and weak homologies were also detected in C. psittaci avian and feline pneumonitis strains, respectively. No pomp homologs were found in strains of C. trachomatis and C. pneumoniae, but this does not preclude their existence. The absence of homology with various subtypes of C. pecorum, which complicate the diagnosis of the ovine abortion subtype, indicates the possible suitability of the these 90-kDa proteins as serodiagnostic antigens.